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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/722,022	WHITTAKER STEWART, MARK ANDREW
	Examiner	Art Unit
	Juvena W. Loo	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-18* is/are pending in the application.

4a) Of the above claim(s) *15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to amendment filed on October 17, 2007 in which claims 1 to 14, and 16 - 18 were amended. Claim 15 was cancelled.

Status of Claims

Claims 1 – 14, and 16 - 18 are pending, of which claims 1, 9, and 14 are in independent form.

1. Applicant's arguments filed October 11, 2007 have been fully considered but they are not persuasive.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 9, 10, 11, 12, and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 5, 6, 7, 8, and 9 of copending Application No. 10/721,213. The conflicting claims are not identical since the current application (No. 10/722,022) is directed to a network while the other one is directed to a switch (Application No. 10/721,213). The network and the switch have different functional entities and are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention to use the switch in the network. The motivation is that the switching will allow the network to direct data to different destinations.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 9, 10, 11, 12, 13, 14, 16, 17, and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 9, 10, 11, 12, 13, 15, 16, and 17 of copending Application No. 10/722021. The conflicting claims are not identical since the current application (No. 10/722,022) is directed to a network while the other one is directed to a connection controller (Application No. 10/722,021). The network and the connection controller have different functional entities and are not patentably distinct from each other because it would have been obvious to one of ordinary skill in the art at the time of the invention to use the

controller for the purpose of calculating an actual traffic pattern through the network. The motivation is to enhance the controller's ability to compute the best path for data transfer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 - 7, 9, 12 - 14, and 17 - 18 are rejected under 35 USC 102(b) as being anticipated by Bertin et al. US 6,400,681 B1 (hereinafter Bertin).

Regarding claim 1, Bertin discloses a network, comprising:

a master subnet manager, wherein the master subnet manager is coupled to provide network topology data (Bertin: Figure 5, a topology database);

a requested traffic pattern for a packet (Bertin: lines 47- 49 column 11 – connection request, including parameters such as origin and destination address, data flow characteristics, is specified by the user); and

a connection controller, wherein

the connection controller is coupled to receive the requested traffic pattern (Bertin: Figure 1, access node) and the network topology data (Bertin: Figure 5, topology database),

compute an actual traffic pattern for the packet (Bertin: lines 50-52 column 11 – a path and a set of requests for each link of the path are determined using parameters provided by the Topology Database; Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfy the request, the path is selected when all the links in the path provide enough bandwidth. The shortest route, with dedicated bandwidth, is chosen from the selected paths. The predetermined paths are calculated based on the topology information stored in the topology database) and

communicate the actual traffic pattern to a source corresponding to the packet such that the network operates as a strictly non-interfering network (Bertin: lines 53 - 65 column 11 - connection request is used to reserve bandwidth on every nodes (origin, transit, and destination) in the path. The transit and destination nodes answer the source/request by sending back either a call acceptance or a call reject).

Regarding claim 2, Bertin discloses all the limitations of claim 1. Additionally, Bertin discloses the connection controller comprises a packing algorithm, wherein the packing algorithm utilizes the requested traffic pattern and the network topology data to compute the actual traffic pattern (Bertin: Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time.

If the characteristics of a path satisfy the request, the path is selected when all the links contain enough bandwidth. The shortest route, with dedicated bandwidth, is chosen from the selected paths. The predetermined paths are calculated based on the topology information stored in the topology database).

Regarding claim 3, Bertin discloses all the limitations of claim 1. Additionally, Bertin discloses the network further comprises a plurality of switches (Bertin: Figure 2), and wherein the connection controller:

calculates a plurality of routing trees for the plurality of switches (Bertin: Figure 9, line 51 column 19 to line 29 column 20; Figure 10, line 32 column 20 to line 4 column 21; and Figure 11, lines 7-33 column 21. The Routing Database and the Topology Database are scanned periodically for identifying new paths or for updating existing ones);

calculates a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches (Bertin: line 59 column 12 to line 23 column 13 – Equivalent Capacity of the network connection is first computed. Next, all potential paths through the network, based on the information stored in the Topology Database, are determined. The algorithm constructs the new potential path by adding one link at a time and ensuring that the bandwidth and quality of services requirements are still met), wherein

each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of destinations in the network (Bertin: lines 37-39 column 13 –

each entry in the table represents a path, between a source node and a destination node, that satisfies specific quality of service and traffic requirements); and

populates a forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions (line 54 column 18 to line 26 column 19 – paths and their corresponding link information are stored in the Path Table and Link Table respectively. The Path Table and Link Table are both part of Routing Database).

Regarding claim 4, Bertin discloses all the limitations of claim 1. Additionally, Bertin discloses computing an actual traffic pattern comprises of executing a rearrangement algorithm (Bertin: Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfies the request, the path is selected if all its links provide enough bandwidth; furthermore, the shortest route, with dedicated bandwidth, is chosen from the selected paths); and assigning one of a plurality of DLID such that the network operates as a strictly non-interfering network (Bertin: Figure 4, Path Table (410) – the selected path, with dedicated bandwidth, contains at least the destination node and the selected path).

Regarding claim 5, Bertin discloses all the limitations of claim 4. Additionally, discloses the network further comprises a plurality of switches (Bertin: Figure 2), wherein

the packet follows a path through at least a portion of the plurality of switches in the network (Bertin: lines 26 - 27, column 7 – incoming data packets are selectively routed onto the outgoing Trunks towards neighboring nodes), and wherein

each of the portion of the plurality of switches forwards the packet according to the one of the plurality of DLIDs assigned to the packet such that the network operates as a strictly non-interfering network (Bertin: lines 28 - 29, column 7 – incoming data packet is forwarded according to the routing information contained in the header of the packet; Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfy the request, the path is selected when all the links in the path provide enough bandwidth. The shortest route, with dedicated bandwidth, is chosen from the selected paths. The predetermined paths are calculated based on the topology information stored in the topology database).

Regarding claim 6, Bertin discloses all the limitations of claim 5. Additionally, Bertin discloses each of the portion of the plurality of switches looks up the one of the plurality of DLIDs assigned to the packet in a forwarding table (Bertin: lines 28 - 29 column 7 – routing decisions are made according to the information contained in the header of the data packets).

Regarding claim 7, Bertin discloses all the limitations of claim 5. Additionally, Bertin discloses each of the portion of the plurality of switches forwards the packet in accordance with the one of the plurality of DLIDs assigned to the packet as found in a

forwarding table (Bertin: lines 26 - 27, column 7 – incoming data packet is forwarded according to the routing information contained in the header of the packet).

Regarding claim 9, Bertin discloses a network comprising a computer-readable medium containing computer instructions for instructing a processor to perform a method of populating a forwarding table, the instructions comprising:

calculating a plurality of routing trees for a plurality of switches (Bertin: Figure 9, lines 51 column 19 to line 29 column 20; Figure 10, line 32 column 20 to line 4 column 21; and Figure 11, lines 7 - 33 column 21. The Routing Database and the Topology Database are scanned periodically for identifying new paths or for updating existing ones);

calculating a plurality of Destination Location Identifiers (DLID) and a set of forwarding instructions for each of the plurality of switches (Bertin: line 59 column 12 to line 23 column 13 – Equivalent Capacity of the network connection is first computed. Next, all potential paths through the network, based on the information stored in the Topology Database, are determined. The algorithm constructs the new potential path by adding one link at a time and ensuring that the bandwidth and quality of services requirements are still met), wherein

each of the plurality of DLIDs corresponds to one of the plurality of routing trees and one of a plurality of end nodes (Bertin: lines 37 - 39 column 13 – each entry in the table represents a path, between a source node and a destination node, that satisfies specific quality of service and traffic requirements); and

populating the forwarding table of each of the plurality of switches in the network with the plurality of DLIDs and the set of forwarding instructions (Bertin: line 54 column 18 to line 26 column 19 – paths and their corresponding link information are stored in the Path Table and Link Table respectively. The Path Table and Link Table are both part of Routing Database) and wherein

the forwarding instructions create paths (Bertin: lines 53-65 column 11 - connection request is used to reserve bandwidth on every nodes (origin, transit, and destination) in the path. The transit and destination nodes answer the source/request by sending back either a call acceptance or a call reject) appropriate to make the network operate as a strictly non-interfering network (Bertin: Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfy the request, the path is selected when all the links in the path provide enough bandwidth. The shortest route, with dedicated bandwidth, is chosen from all the selected paths. The predetermined paths are calculated based on the topology information stored in the topology database).

Regarding claim 12, the combination of Bertin and Brahmaroutu discloses all the limitations of claim 9 above. Additionally, Bertin discloses

calculating the plurality of routing trees comprises for each spine node in the network (Bertin: Figure 9, lines 51 column 19 to line 29 column 20; Figure 10, line 32 column 20 to line 4 column 21; and Figure 11, lines 7-33 column 21. The Routing

Database and the Topology Database are scanned periodically for identifying new paths or for updating existing ones),

calculating a shortest path from the spine node to each of the plurality of end nodes (Bertin: lines 41 - 44 column 14 – a path is calculated with as few links as possible that supports the quality-of-service requirements of the request).

Regarding claim 13, the combination of Bertin and Brahmaroutu discloses all the limitations of claim 9 above. Additionally, Bertin discloses wherein each of the plurality of routing trees comprises at least a portion of the plurality of switches and corresponding plurality of links that form a shortest path from one of the plurality of end nodes to a spine node of the network (Bertin: lines 41 - 44, column 14).

Regarding claim 14, Bertin discloses a network comprising a computer-readable medium containing computer instructions for instructing a processor to perform a method of forwarding a packet, wherein the packet is created at a source and is addressed to a destination within the network (Bertin: lines 17-26, column 8 – once the optimum paths through the network are calculated, based on a set of quality of service specifications, so that minimum network resources are used, the header of the packets is generated in the node), the instructions comprising:

executing a rearrangement algorithm for the network (Bertin: Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfy the request, the path is selected if its entire links provide enough bandwidth. Moreover, the shortest route, with dedicated bandwidth, is chosen from the selected paths);

assigning one of a plurality of Destination Location Identifiers (DLID) to the packet (Bertin: lines 17 - 22 column 8 – the optimum path is put in the header of the packet); and

the packet follows a path through at least a portion of a plurality of switches from the source to the destination (Bertin: lines 10 - 16 column 8 – the packet is routed according to the information in the header) and wherein

the network operates as a strictly non-interfering network (Bertin: Figure 7 - all the predetermined paths, corresponds to a specific destination, are extracted from the Path Table one at a time. If the characteristics of a path satisfy the request, the path is selected when all the links in the path provide enough bandwidth. The shortest route, with dedicated bandwidth, is chosen from all the selected paths. The predetermined paths are calculated based on the topology information stored in the topology database).

Regarding claim 17, the combination of Bertin and Brahmaroutu discloses all the limitations of claim 14 above. Additionally, Bertin discloses wherein the packet following the path comprises looking up the one of the plurality of DLIDs assigned to the packet in a forwarding table at each of the portion of the plurality switches along the path from the source to the destination (Bertin: lines 28 - 29 column 7 – routing decisions are made according to the information contained in the header of the data packets).

Regarding claim 18, the combination of Bertin and Brahmaroutu discloses all the limitations of claim 14 above. Additionally, Bertin discloses wherein the packet following the path comprises each of the portion of the plurality of switches forwarding the packet

in accordance with the one of the plurality of DLIDs assigned to the packet as found in the forwarding table at each the portion of the plurality of switches (Bertin: lines 28 - 29, column 7 – incoming data packet is forwarded according to the routing information contained in the header of the packet).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 11 is rejected under 35 USC 103(a) as being unpatentable over Bertin et al. (US 6,400,681 B1) in view of Brahmaroutu (US 2003/0033427 A1).

Regarding claim 11, Bertin discloses each of the plurality of end nodes comprises a destination (lines 52-53 column 5 – each node comprises one or more communication devices for receiving or transmitting data packets). However, Bertin fails to teach that the destination is identified by a BaseLID.

In the same field of endeavor, Brahmaroutu discloses every switch and each port may have one or more Local Identifiers (LIDs) (Brahmaroutu; Page 4, Section 31). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a local identifier as disclosed by Brahmaroutu into the teaching of Bertin. The motivation would have been in allowing multiple identifiers.

9. Claims 8, 10, and 16 are rejected under 35 USC 103(a) as being unpatentable over Bertin et al. (US 6,400,681 B1) in view of Yang et al. (US Patent 5,940,389).

Regarding claim 8, Bertin discloses all of claim 1 above. However, Bertin fails to teach that the switch fabric is a CLOS network. In the same field of endeavor, Yang et al. discloses a Benes Network, which is a special case of a CLOS network, can be used as a switch fabric (Yang; lines 32 - 36 column 6) and that each node in the network has an entry, which is indexed by an identifier and contains information regarding how to transmit received cells to the next node, in the routing table (Yang; lines 30 - 37 column 2). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a CLOS network as disclosed by Yang into the network of Bertin. The motivation would have been in reducing latency because CLOS network is well known and expected in the art.

Regarding claim 10, the combination of Bertin and Brahmaroutu disclose all of claim 9 above. However, Bertin fails to teach that the switch fabric is a CLOS network. In the same field of endeavor, Yang et al. discloses a Benes Network, which is a special case of a CLOS network, can be used as a switch fabric (Yang; lines 32 - 36 column 6) and that each node in the network has an entry, which is indexed by an identifier and contains information regarding how to transmit received cells to the next node, in the routing table (Yang; lines 30 - 37 column 2). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a CLOS network as disclosed

by Yang into the network of Bertin. The motivation would have been in reducing latency because CLOS network is well known and expected in the art.

Regarding claim 16, the combination of Bertin and Brahmaroutu disclose all of claim 14 above. However, Bertin fails to teach that the switch fabric is a CLOS network. In the same field of endeavor, Yang et al. discloses a Benes Network, which is a special case of a CLOS network, can be used as a switch fabric (Yang; lines 32 - 36 column 6) and that each node in the network has an entry, which is indexed by an identifier and contains information regarding how to transmit received cells to the next node, in the routing table (Yang; lines 30 - 37 column 2). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply a CLOS network as disclosed by Yang into the network of Bertin. The motivation would have been in reducing latency because CLOS network is well known and expected in the art.

Response to Amendment

Applicant states, as in pages 7 - 8, that Bertin does not disclose a connection controller that is coupled to receive the requested traffic pattern and the network topology data, compute an actual traffic pattern for the packet and communicate the actual traffic pattern to a source corresponding to the packet such that the network operates as a strictly non-interfering network. In reply, Bertin discloses that for each connection request, the system selects a pre-calculated path satisfying said connection request in the routing database. However, if no pre-calculated path is found, the system calculates a path that satisfying said connection request (Bertin: line 63 column 5

through line 1 column 6). Bertin further discloses that during the path selection/calculation process, all the information is collected and an Equivalent Capacity of the new network connection is calculated. Potential paths through the network from the origin to the destination node(s) are computed. The path selection/calculation process constructs new potential paths, adds links and nodes on a hop-by-hop basis, and checks at each stage that the user requirements are being met (Bertin: lines 59 - 67 column 12).

Applicant states, as in page 8, that nothing about the Path Selection process disclosed describes a process that creates a strictly non-interfering network. In reply, the Path Selection process is to determine the best way to allocate network resources to connections both to guarantee that user quality of service requirements are satisfied and also to optimized the overall throughput of the network. The process must supply to the requesting user a path over the network over which a point-to-point connection will be established, and some bandwidth will be reserved if needed. (Bertin: lines 1 - 9 column 12).

Applicant states, as in page 9, that Bertin does not disclose each and every limitation of claim 1. In reply, Bertin discloses a master subnet manager, a requested traffic pattern, and a connection controller as explained in the response to claim 1 above.

Dependent claims 2 and 4 remain to be rejected. The Examiner respectfully submits that claims 2 and 4 are unpatentable over Bertin for the reason explained above.

Applicant states, as in page 9, that Brahmaroutu also does not disclose a strictly non-interfering network. In reply, Brahmaroutu discloses the use of multi-path assignment algorithm to determine and identify all the links that exist between a destination switch and other switches in the network (Brahmaroutu: Page 7, Section 60). Brahmaroutu also discloses that separate channels may be used for different functions. In other words, a channel may be used for transporting send request and reply messages while a separate channel or set of channels may be created for moving data between two nodes through switches so various sources do not attempt to use the same network resources at the same time (Brahmaroutu: Page 2, Section 22). In other words, multiple channels can be dedicated to transport traffic between two nodes.

Applicant submits, as in page 10, the combination of Bertin and Brahmaroutu does not disclose, teach or otherwise suggest that the forwarding table includes paths for a strictly non-interfering network or that the network operates a strictly non-interfering network as required by independent claims 9 and 14. In reply, Bertin discloses a path selection/calculation process for creating path through a network that satisfies user's requirement as explained above. In addition, Brahmaroutu discloses a technique that allows the use of multi-paths to transport traffic between two network nodes.

Dependent claims 11 - 13 and 17 - 18 remain to be rejected. The Examiner respectfully submits that claims 11 - 13 and 17 - 18 are unpatentable over Bertin in view of Brahmaroutu for the reason explained above.

Dependent claims 3 - 7 remain to be rejected. The Examiner respectfully submits that claims 3 - 7 are unpatentable over Bertin in view of Brahmaroutu for the reason explained above.

Dependent claims 8, 10, and 16 remain to be rejected. The Examiner respectfully submits that claims 8, 10, and 16 are unpatentable over Bertin in view of Yang for the reason explained above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juvena W. Loo whose telephone number is (571) 270-1974. The examiner can normally be reached on Mon - Fri: 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juvena W Loo
Examiner
Art Unit 2616

KWANG BIN YAO
SUPERVISORY PATENT EXAMINER